

## WHAT IS CLAIMED IS:

- 1 1. An RNase A superfamily polypeptide having an N-terminus of the sequence:  
2  $X^1X^2SLX^3V$ , wherein  $X^1$  represents methionine or is absent,  $X^2$  represents glycine  
3 or is absent, and  $X^3$  represents an amino acid residue, said RNase A superfamily  
4 polypeptide being selectively toxic to a proliferating endothelial cell.
- 1 2. An RNase A superfamily polypeptide of claim 1 having SEQ. ID. No.: 2.
- 1 3. An RNase A superfamily polypeptide of claim 1 having 90% homology to SEQ.  
2 ID. No.: 2.
- 1 4. An RNase A superfamily polypeptide of claim 1 having SEQ. ID. No.: 4.
- 1 5. An RNase A superfamily polypeptide of claim 1 having 90% homology to SEQ.  
2 ID. No.: 4.
- 1 6. An RNase A superfamily polypeptide of claim 1 wherein the N-terminus is  
2 MSLHV.
- 1 7. An RNase A superfamily polypeptide of claim 1 wherein the N-terminus is  
2 MGSLHV.
- 1 8. An RNase A superfamily polypeptide of claim 1 wherein the N-terminus is  
2 attached to the EDN protein.
- 1 9. An RNase A superfamily polypeptide of claim 1 wherein the proliferating  
2 endothelial cell is a neoplastic endothelial cell.
- 1 10. An RNase A superfamily polypeptide of claim 1 wherein the proliferating  
2 endothelial cell is a non-neoplastic endothelial cell.
- 1 11. An RNase A superfamily polypeptide of claim 9 wherein the neoplastic  
2 endothelial cell is a Kaposi sarcoma KS Y-1 cell.
- 1 12. An RNase A superfamily polypeptide of claim 9 wherein the neoplastic  
2 endothelial cell is a KS Y-3 cell.

- 1 13. An RNase A superfamily polypeptide of claim 9 wherein the neoplastic
- 2 endothelial cell is selected from the group consisting of KS 1, KS 2, KS 3, KS 4,
- 3 KS 5, and KS 6 cells.
- 1 14. A pharmaceutical composition comprising
  - 2 a. a unit dosage RNase A superfamily polypeptide comprising an N-terminus
  - 3 of the sequence:  $X^1X^2SLX^3V$ , wherein  $X^1$  represents methionine or is
  - 4 absent,  $X^2$  represents glycine or is absent, and  $X^3$  represents an amino acid
  - 5 residue, said RNase A superfamily polypeptide being selectively toxic to a
  - 6 proliferating endothelial cell; and
  - 7 b. a pharmaceutically acceptable carrier.
- 1 15. A method of selectively inhibiting the growth of a proliferating endothelial cell by
  - 2 a. contacting said cell with an RNase A superfamily polypeptide comprising
  - 3 an N-terminus of the sequence:  $X^1X^2SLX^3V$ , wherein  $X^1$  represents
  - 4 methionine or is absent,  $X^2$  represents glycine or is absent, and  $X^3$
  - 5 represents an amino acid residue, said RNase A superfamily polypeptide
  - 6 being selectively toxic to a proliferating endothelial cell; and
  - 7 b. detecting the inhibition of the growth of said cell.
- 1 16. The method of claim 15 wherein the proliferating endothelial cell is a neoplastic
- 2 cell.
- 1 17. The method of claim 16 wherein the neoplastic cell is a Kaposi sarcoma cell.
- 1 18. The method of claim 17 wherein the Kaposi sarcoma cell is selected from the
- 2 group consisting of KS 1, KS 2, KS 3, KS 4, KS 5, KS 6, KS Y-1, and KS Y-3
- 3 cells.
- 1 19. A method of treating a patient with proliferating endothelial cells by
  - 2 a. administering an effective amount of an RNase A superfamily polypeptide
  - 3 comprising an N-terminus of the sequence:  $X^1X^2SLX^3V$ , wherein  $X^1$
  - 4 represents methionine or is absent,  $X^2$  represents glycine or is absent, and
  - 5  $X^3$  represents an amino acid residue, said RNase A superfamily
  - 6 polypeptide being selectively toxic to a proliferating endothelial cell; and

7           b.     detecting the amelioration of Kaposi sarcoma in said patient

1   20.   The method of claim 19 wherein the RNase A superfamily polypeptide is in an  
2           aqueous solution comprising a unit dosage and pharmaceutically acceptable  
3           excipients.

1   21.   A method of manufacturing a pharmaceutical composition comprising the step of  
2           combining the RNase A superfamily polypeptide of claim 1 with a  
3           pharmaceutically acceptable carrier.